

Motorized MECHANIX

ENGINEERING SYSTEM FOR CREATIVE KIDS



AGE 8+

MODELS 5

PIECES 84



Do - it yourself manual

- Read all instructions carefully before constructing.
- Place all the pieces used in a step on the side before starting.
- Always remove batteries when not in use.

Skills Developed



Dear Friends!
Zephyr brings yet another international engineering set of Mechanix for you, to have fun & learn. This set contains 84 pieces, crafted from high quality steel, which are powder coated, superior plastics & selected tools which will be friendly to your hands so that you have fun while creating various models. You can use these parts over & over again to create at least 5 models and many more as far as your imagination flies.

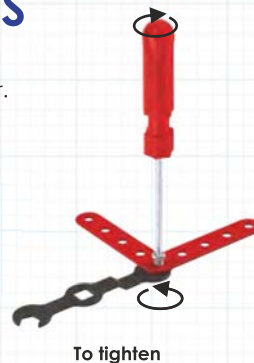
So come on get started!



BASIC FITTINGS



Hold the spanner in place while turning the screw driver.



Screw size information



Bolts 6 mm



Bolts 12 mm

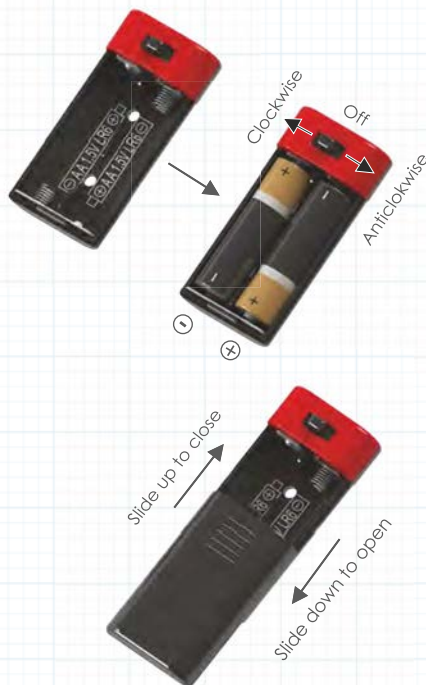


Bolts 25 mm

Make sure you are using correct bolts by comparing it to the image in the contents.
All bolt images are of actual size.

Safety Guidelines

1. Do not mix old and new batteries.
2. Do not mix alkaline, standard (Carbon-Zinc) or rechargeable (Nickel-Cadmium) batteries.
3. Batteries are to be inserted by matching (+) and (-) polarity markings as shown in the image.
4. Non-rechargeable batteries are not to be charged.
5. Rechargeable batteries are to be removed before being charged.
6. Exhausted batteries are to be removed from toy.
7. The supply terminals are not to be short-circuited.
8. The kit is not intended for children under 3 years old.
9. Remove batteries before cleaning any part of the toy.
10. Prevent wire from coming in contact with the moving parts.



Add 2 x 1.5 V "AA" size batteries

Gears!

1. To change speed
2. To increase or decrease torque
3. To change direction

Gears are very interesting because if you increase speed with a gear, the torque reduces and if you decrease speed, the torque increases. And this happens in proportion, which means if the speed becomes half, the torque doubles!

So now that we know how this works, can you figure out which gear in a car has maximum torque? The first gear! But the speed is least. And in the top gear, The speed is highest but torque is low. This is why you might notice that while going up on a slope, you need more torque and the driver sometimes has to reduce the gear.

There are many different types of gears, like spur gear, bevel gears, helical gears, worm gears etc. In these models you will understand how a worm gear works with a spur gear.

Calculations:

This calculation is applicable for worm gears.

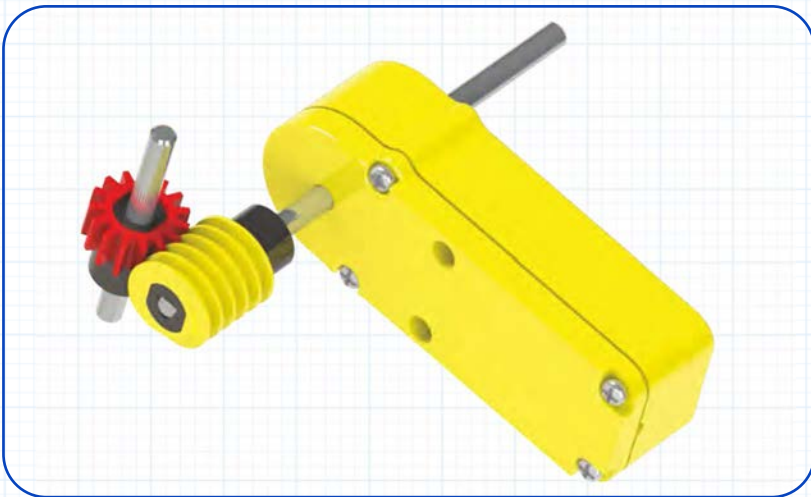
Output speed = Input Speed/Number of teeth (on spur gear)

Therefore in this gear (which has 15 teeth)

Output speed = Input speed/15

Considering that the motor is running at 150 Rotations per minute,

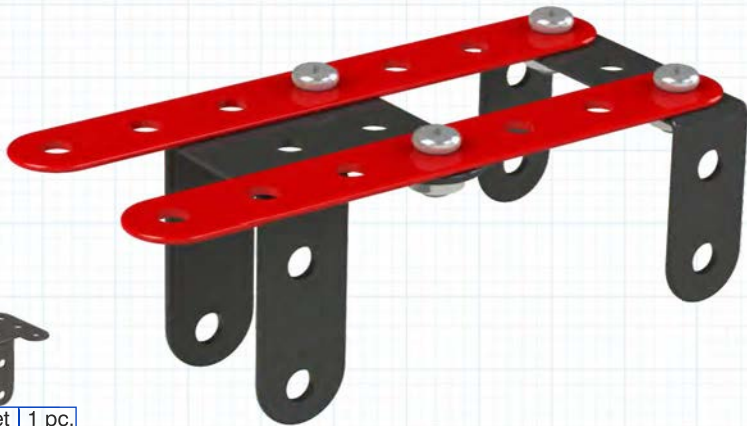
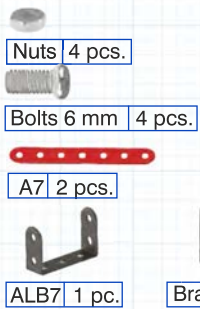
Output speed = $150/15 = 10$ Rotations per minute.



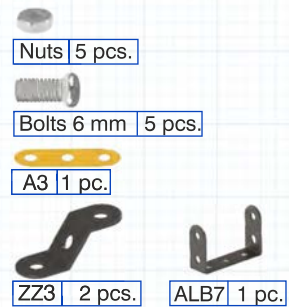
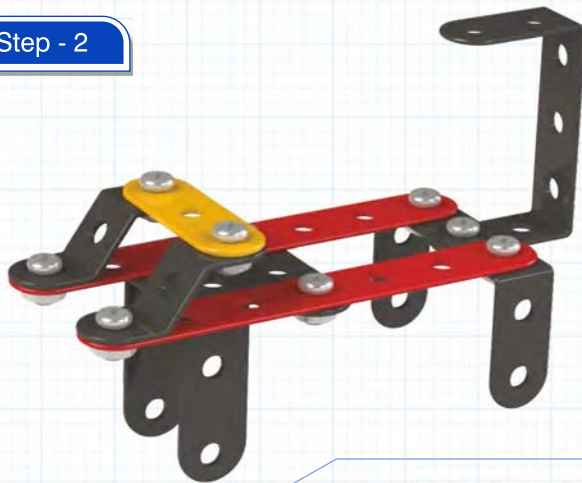
Now lets start building!

Model - 1

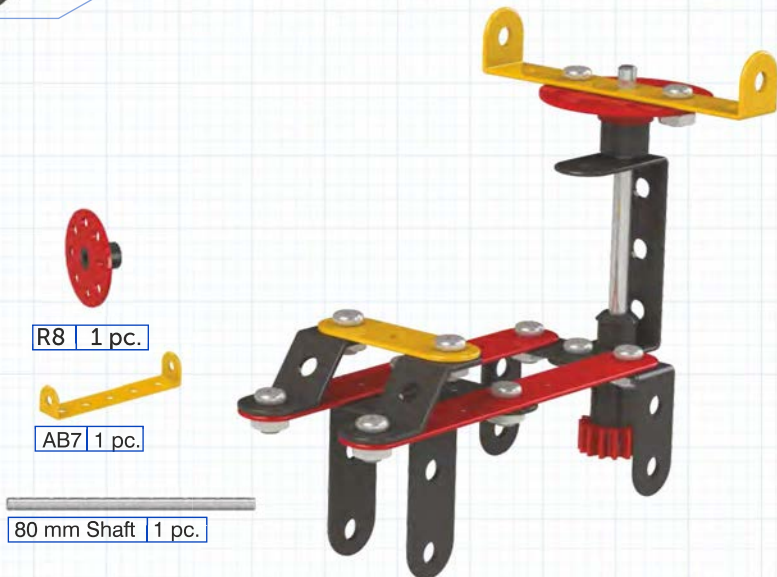
Step - 1



Step - 2



Step - 3



Step - 4



Nuts 4 pcs.



Bolts 6 mm 2 pcs.



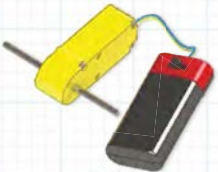
Bolts 25 mm 2 pcs.



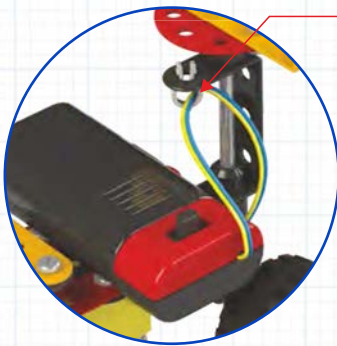
G2 1 pc.



80 mm Shaft 1 pc.



Motor & Battery Box Set
1 pc.



Prevent wire from coming in contact with the moving parts.

Step - 5



TW1 2 pcs.



Wire Clip 1 pc.







Wheel 4 pcs.

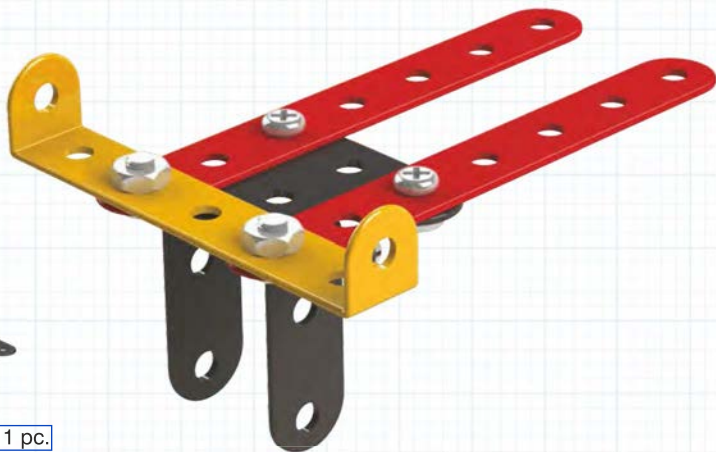


Model - 2

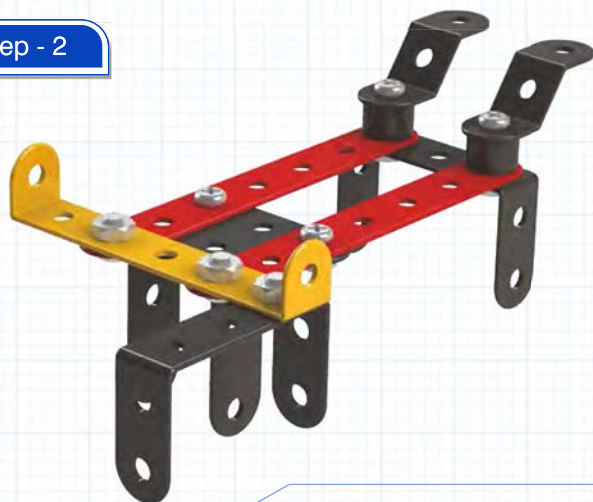
Step - 1







-  Nuts 4 pcs.
-  Bolts 6 mm 4 pcs.
-  A7 2 pcs.
-  AB7 1 pc.

Bracket 1 pc.










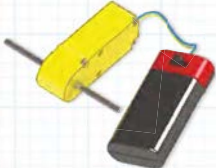


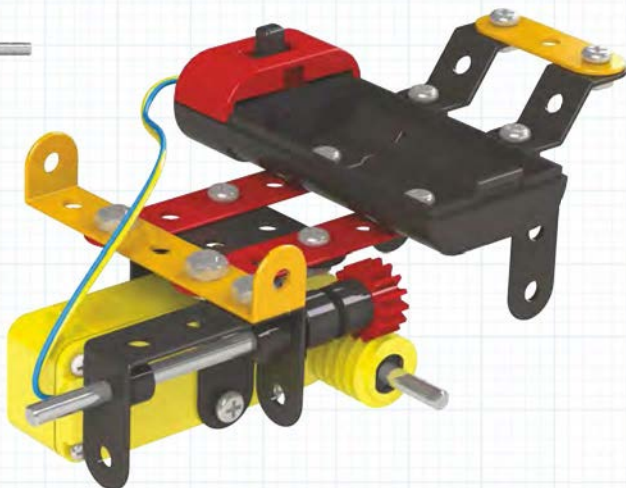
Step - 2



-  Nuts 3 pcs.
-  Bolts 6 mm 1 pc.
-  ALB7 2 pcs.
-  Bolts 12 mm 2 pcs.
-  TW1 2 pcs.
-  ZZ3 2 pcs.

Step - 3

-  Nuts 6 pcs.
-  Bolts 6 mm 4 pcs.
-  Bolts 25 mm 2 pcs.
-  A3 1 pc.
-  G1 1 pc.
-  TW1 1 pc.
-  80 mm Shaft 1 pc.
-  Rubber Bush 2 pcs.
-  G2 1 pc.
-  Motor & Battery Box Set 1 pc.

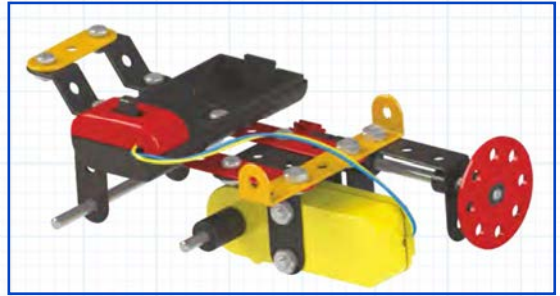
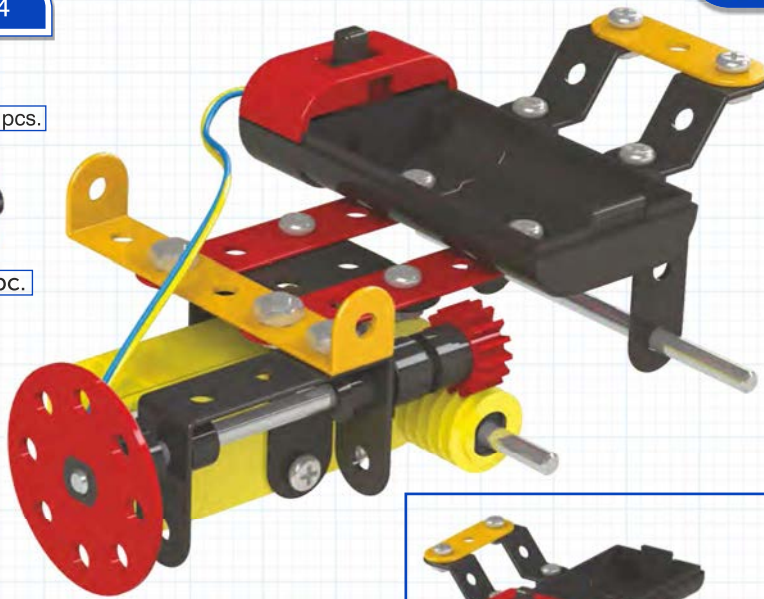


Step - 4

TW1 2 pcs.

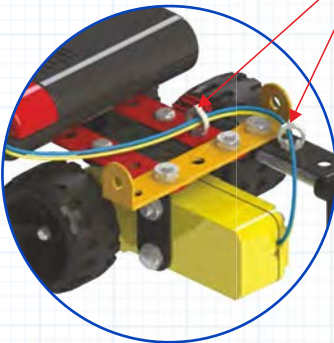
R8 1 pc.

80 mm Shaft 1 pc.



Step - 5

Prevent wire from coming in contact with the moving parts.



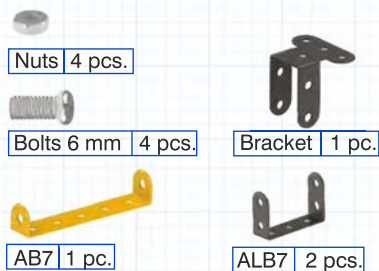
Wire Clip 1 pc.

Wheel 4 pcs.

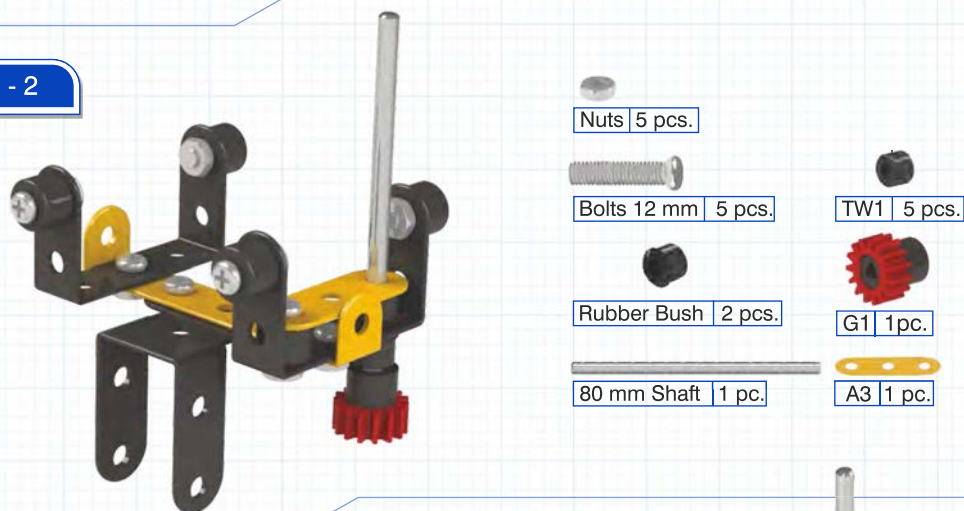


Model - 3

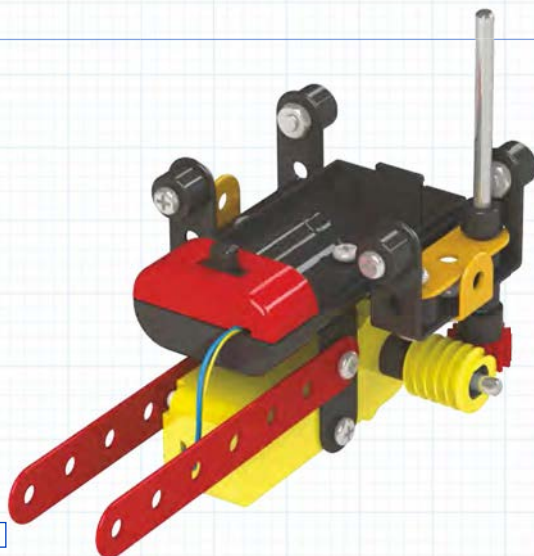
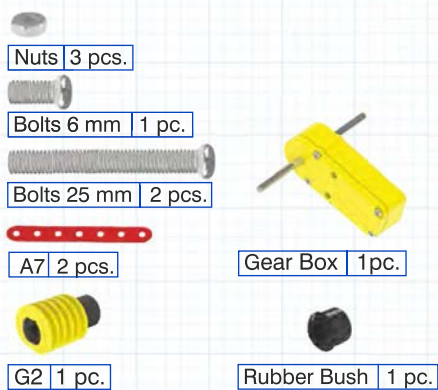
Step - 1



Step - 2

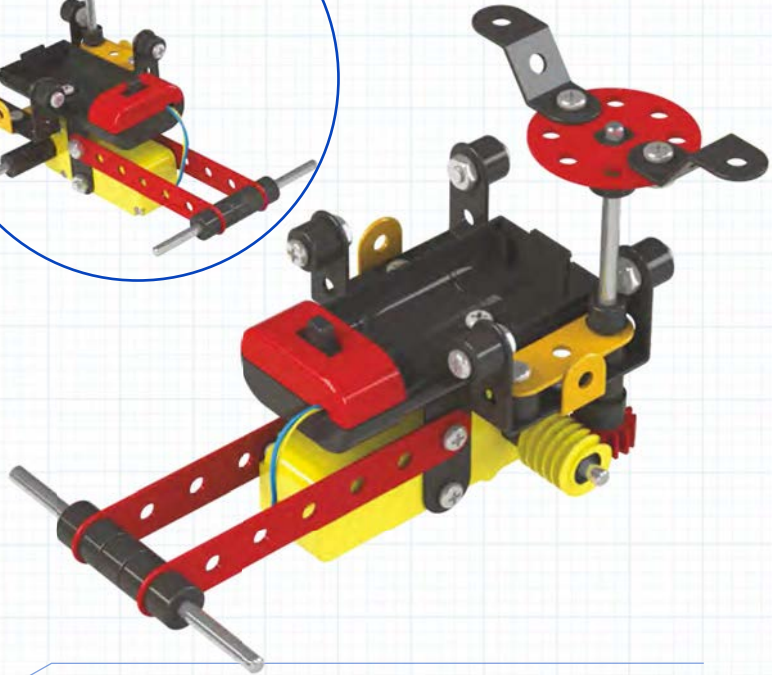
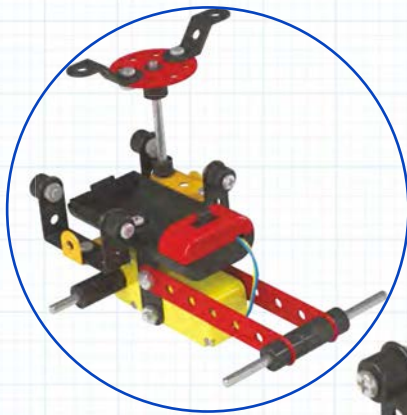


Step - 3



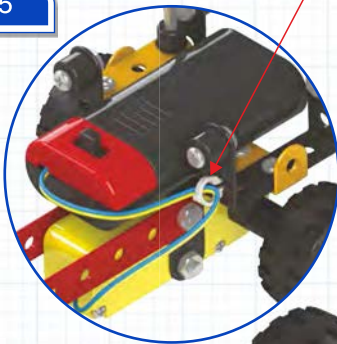
Step - 4

-  Nuts 2 pcs.
-  Bolts 6 mm 2 pcs.
-  TW1 8 pcs.
-  ZZ3 2 pcs.
-  R8 1 pc.
-  80 mm Shaft 1 pc

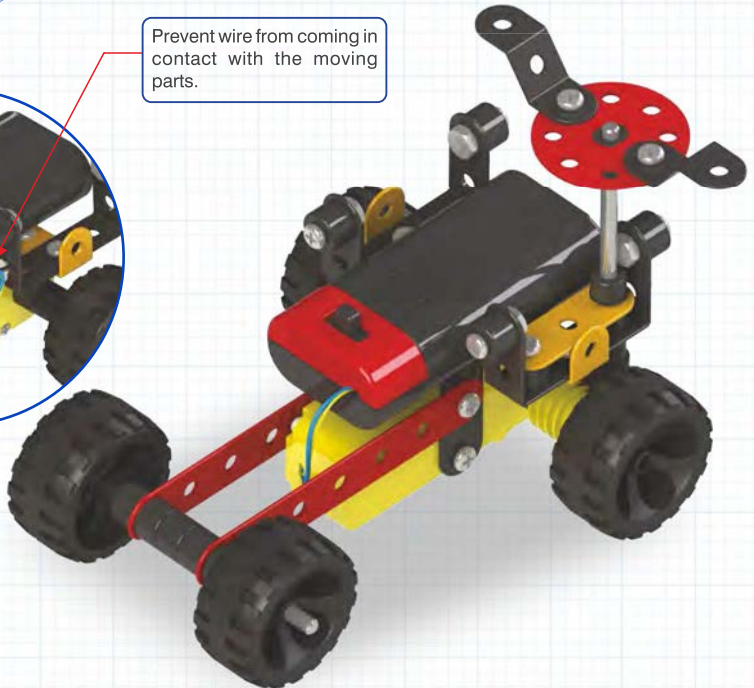


Step - 5

-  Wire Clip 1 pc.
-  Wheel 4 pcs.



Prevent wire from coming in contact with the moving parts.



Model - 4

Step - 1

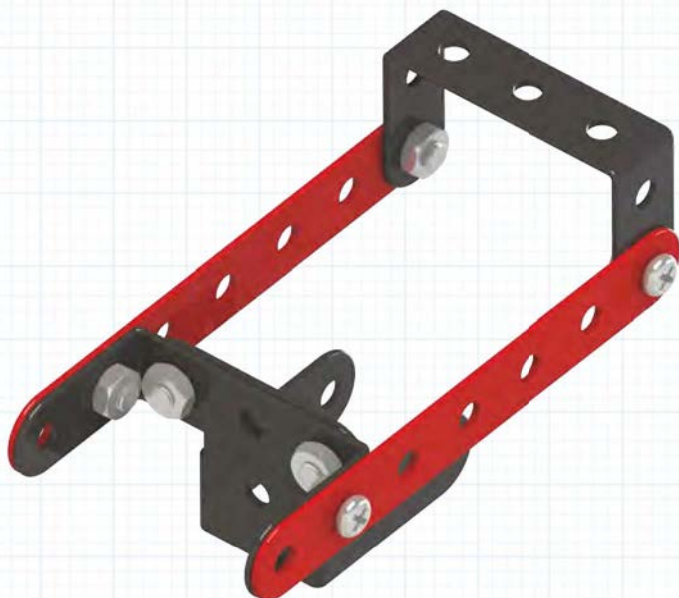
Nuts 6 pcs.

Bolts 6 mm 6 pcs.

A7 2 pcs.

ALB7 2 pcs.

Bracket 1 pc.



Step - 2

Nuts 8 pcs.

Bolts 6 mm 5 pcs.

Bolts 12 mm 1 pc.

Bolts 25 mm 2 pcs.

A3 1 pc.

AB7 1 pc.

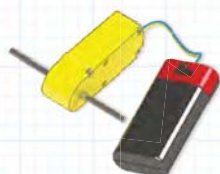
ZZ3 1 pc.

Wire Clip 1 pc.

R8 1 pc.

Wheel 4 pcs.

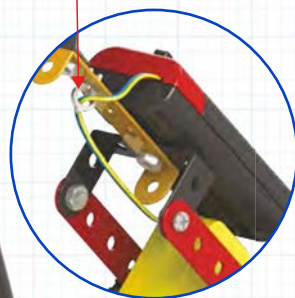
80 mm Shaft 1 pc.



Motor & Battery Box Set 1 pc.



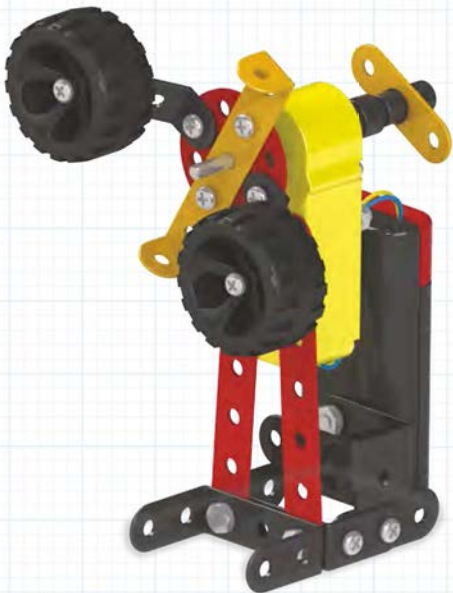
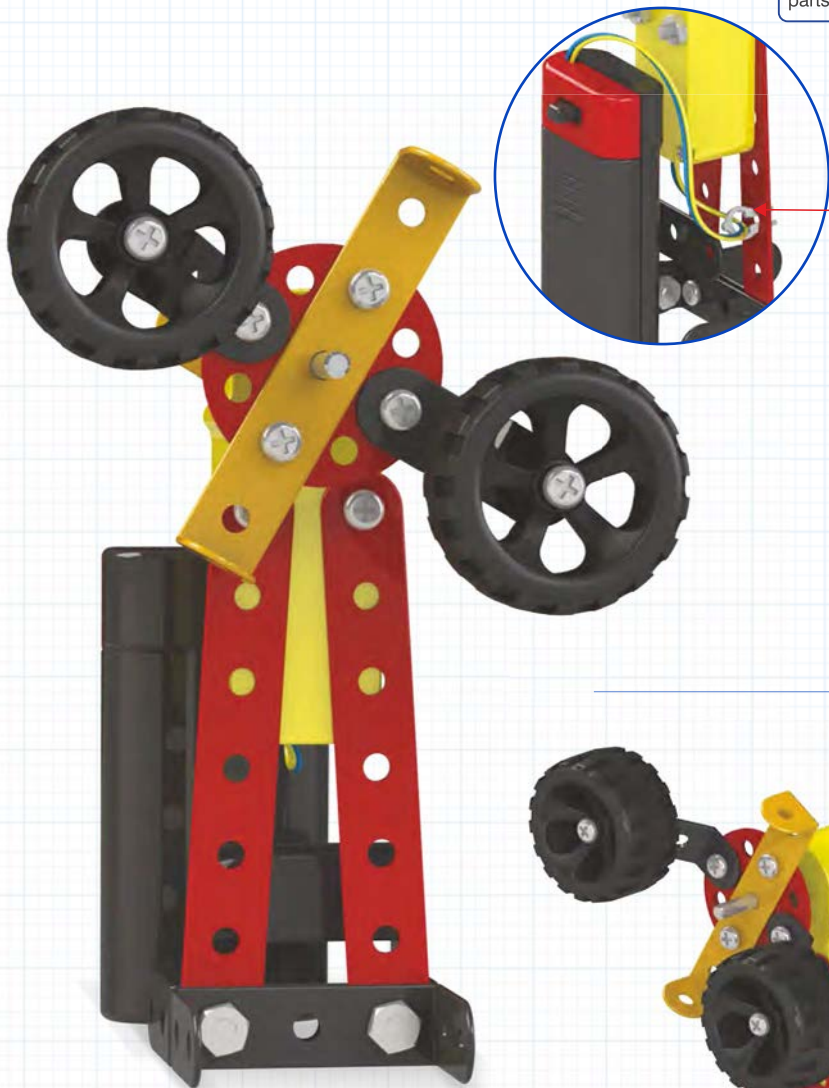
Prevent wire from coming in contact with the moving parts.



Model - 5

Windmill

Prevent wire from coming in contact with the moving parts.



Robotix - I



Flexible Steel Pieces

Motor Powered

MECHANIX - Robotix - 1

Contents:

- Age: 7+
- No. of Models: 7
- No. of pcs.: 108



Robotix - III



MECHANIX - Robotix - 3

Contents:

- Age: 7+
- No. of Models: 8
- No. of pcs.: 215

Battle Station - 1

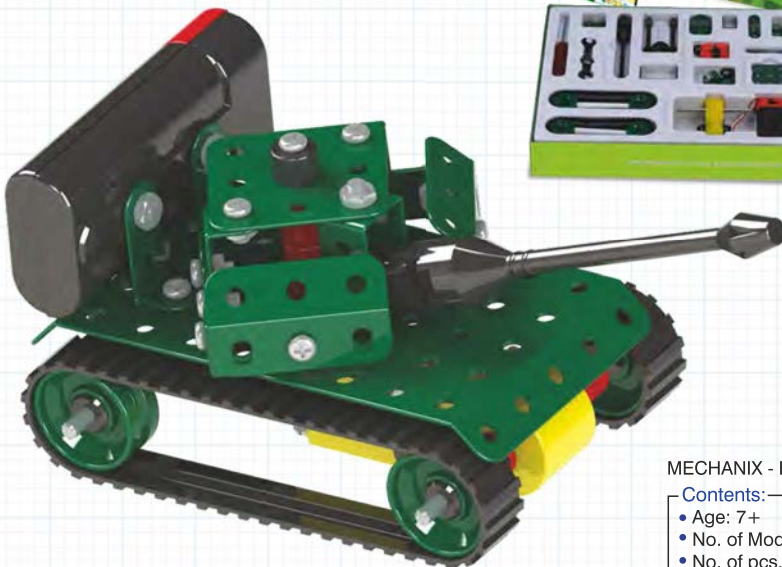


MECHANIX - Battle Station - 1

Contents:

- Age: 7+
- No. of Models: 9
- No. of pcs.: 95

Battle Station - 2



MECHANIX - Battle Station - 2

Contents:

- Age: 7+
- No. of Models: 5
- No. of pcs.: 118

Blix

AMUSEMENT PARK



Blix - Amusement Park

Contents:

- Age: 7 - 99
- No. of Models: 7
- No. of pcs.: 340



GEAR BOX



Blix - Gear Box

Contents:

- Age: 7 - 99
- 10 Experiments
- No. of pcs.: 100+



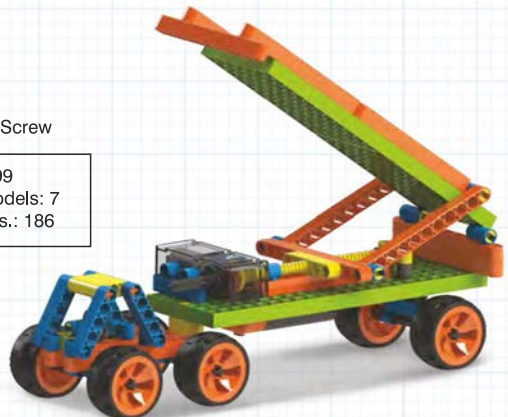
POWER SCREW



Blix - Power Screw

Contents:

- Age: 7 - 99
- No. of Models: 7
- No. of pcs.: 186

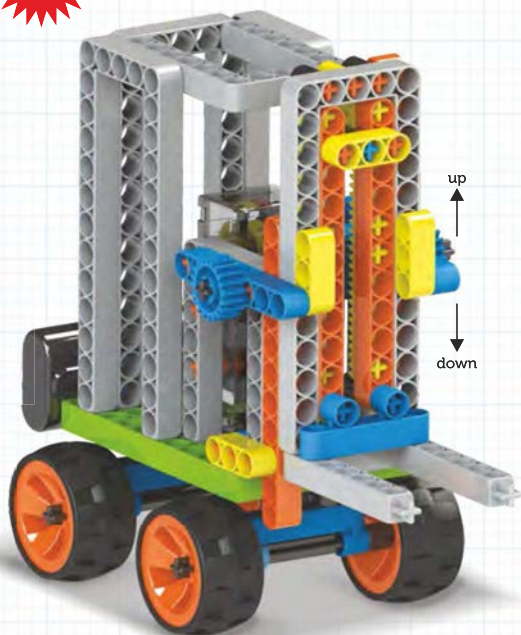




Blix - RACK & PINION

Contents:

- Age: 7 - 99
- No. of Models: 6
- No. of pcs.: 150+



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That fresh smile and laughter, giggles and chattering of the little kids are one of the most refreshing happiness that touches the heart. Like the cool evening breeze on the rise that refreshes the soul of a worked up being. That is what Zephyr is all about and about quality, in the true sense of the word. Quality of play, quality of education and quality of product.

We bring you a whole range of play and educational toys of international standards that undergo through the strict quality control of the Zephyr family itself. Our kits have won quite a few awards and Mechanix is our star set that has won "The Best Educational Toy" and "The Best Toy" award at the IATIMA. We do not do business, at Zephyr's we befriend children. A smile on your child's face is our gain.

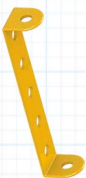
ENGINEERING SYSTEM FOR CREATIVE KIDS



A3 1 pc.



A7 2 pcs.



AB7 1 pc.



ALB7 2 pcs



ZZ3 2 pcs.



Bracket 1 pc.



Rubber Bush 3 pcs.



G1 1pc.



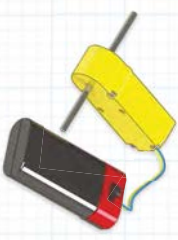
G2 1pc.



Wheel 4 pcs.



R8 1 pc.



Motor & Battery Box Set
1 pc.



TW1 13 pcs.



Nuts 20 pcs.



Bolts 6 mm 17 pcs.



Bolts 12 mm 6 pcs.



Bolts 25 mm 3 pcs.



80 mm Shaft 2 pcs.



Wire Clip 4 pcs.



Spanner 1 pc.



Screwdriver 1 pc.

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